DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027100
Date Inspected: 25-Jan-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: L & M Industrial Fabricators

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Tangent, Oregon

CWI Name:	Tom Dreyer			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☑ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☐ Yes	☑ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower Head Parapet

Summary of Items Observed:

This Quality Assurance (QA) Inspector, Art Peterson arrived at L & M Industrial Fabricators between the times noted above to randomly observe Quality Control (QC) personnel monitor the welding operations performed by L & M personnel and the NDT inspection on the fabrication of chimney parapet walls to the Tower Head Top Plate. The following observations for the extra work being performed to the following contract change order were:

CCO: 196 - Description: Construct parapet walls at the Tower Heads

North Tower Chimney Parapet:

This QA Inspector randomly observed L & M welder David Harrington (Welder ID #34) performing the fillet weld pass operation per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (2G) horizontal position connecting the stiffener plates (A6e, A6f, A6g, A6h, and A6j) to the internal side of parapet wall plate-(A6b) of the North Tower Chimney Head. This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the fillet weld operation that the minimum preheat temperature as per the approved WPS was established and afterwords verified that the welding parameters (Amps, Volts and Travel Speed) were in accordance with WPS-D1.5-FC-006-2F using Hobart Excel Arc E71T-1 (.052") diameter electrode.

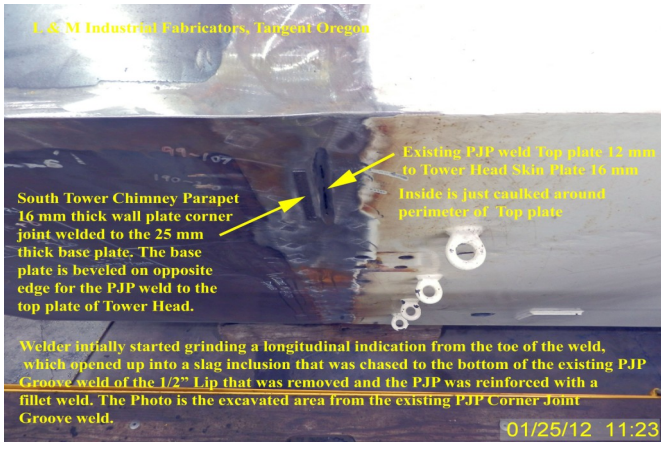
South Tower Chimney Parapet:

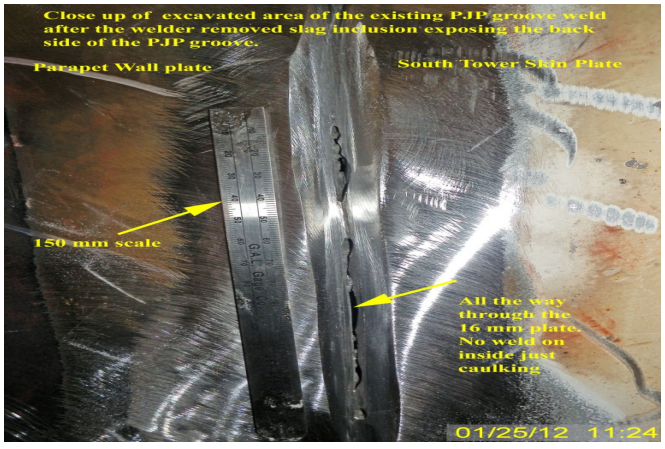
This QA Inspector randomly observed L & M welder Otis Smith (Welder ID #19) performing the repair weld operation per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (2G) horizontal position on the

CJP weld connecting the parapet wall base plate-(A5a) to the parapet wall plate-(A5b) of the South Tower Chimney Head. The QC NDT Inspector ultrasonically tested the CJP weld and observed two (2) rejectable transverse linear Class A indications at "Y" Location (522) mm and at "Y" Location (714) mm. This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the repair weld operation that the minimum preheat temperature as per the approved repair WPS was established and afterwords verified that the welding parameters (Amps and Volts) were in accordance with WPS-LM-FC-01 Repair using Hobart Excel Arc E71T-1 (.052") diameter electrode.

South Tower Chimney Parapet:

This QA Inspector observed L & M welder Otis Smith (Welder ID #19) performing the grinding operation to remove a MT transverse linear indication detected on the surface at "Y" location (1081) mm of the PJP corner joint groove weld of parapet wall base plate-(A5a) to Tower Head top plate. The welder was preparing the excavated area for welding and the welder informed this QA Inspector that after removal of the transverse linear indication another indication appeared visually that was located in the existing PJP corner joint groove weld connecting the Tower Head top plate to the Tower Skin Plate. The indication visibly detected appeared to be a slag inclusion running longitudinally to the PJP groove weld and was present for the full depth of the (9) mm PJP groove weld. After further grinding, the weld metal was ground too thin and exposed the back side of the PJP groove weld. The welder informed QC Inspector Mr. Tom Dreyer who informed this QA Inspector that he would notify L & M Industrial Fabricators' Client Finnoe Design, Inc. of the findings and wait for Mr. Ben Finnoe to contact ABF representatives for disposition into 1)- repairing the MT longitudinal linear indications being detected in the existing PJP groove weld connecting the Tower Head top plate to the Skin Plate and 2)- consider proposing to add a reinforcement weld on the back side of the existing PJP groove weld.





Summary of Conversations:

See above for significant conversations reported on this date.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy, 510-385-5910, who represents the Office of Structural Materials for your project.

WELDING INSPECTION REPORT

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Inspected By:	Peterson,Art	Quality Assurance Inspector
Reviewed By:	Mertz,Robert	QA Reviewer